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Quality Engineering Test Report

SERIES:PD25 25W AC-DC DUAL OUTPUT OPEN FRAME SWITCHING POWER SUPPLY

SAMPLE: A.PD-25A V1:+5V /2.1A V2:+12V / 1.2A
B.PD-25B V1:+5V /1.2A V2:+24V /0.8A
C.PD-2505 V1:+5V / 2.5A V2:-5V / 2.5A
D.PD-2512 V1:+12V / 1A V2:-12V /1A
E.PD-2515 V1:+15V / 0.8A V2:-15V / 0.8A
F.PD-2503 V1:+5V / 3A V2:+3.3 / 3A

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT
1	AC INPUT VOLTAGE RANGE	I/P:TESTING SPEC:85~264VAC O/P:FULL LOAD	F:59.1VAC~264VAC	P
2	LINE REGULATION	I/P:85~264VAC SPEC: O/P:FULL LOAD A :V1 :±0.5% V2 :±2% B :V1 :±0.5% V2 :±2% C :V1 :±1% V2 :±1% D :V1 :±0.5% V2 :±0.5% E :V1 :±0.5% V2 :±0.5% F :V1 :±2% V2 :±1%	A: V1: -0.1%~+0% V2: -0.05%~+1.1% B: V1: -0%~+0% V2: -0.02%~+0.94% C: V1: -0.24%~+0% V2: -0%~+0% D: V1: -0%~+0.1% V2: -0.1%~+0% E: V1: -0.04%~+0% V2: -0%~+0% F: V1: -0.51%~+0% V2: -0%~+0%	P
3	LOAD REGULATION	I/P:230VAC SPEC: O/P:MIN. TO FULL LOAD A : V1 : ±1% V2 : ±4% B : V1 : ±1% V2 : ±4% C : V1 : ±4% V2 : ±4% D : V1 : ±3% V2 : ±3% E : V1 : ±3% V2 : ±3% F : V1 : ±4% V2 : ±1%	A: V1: -0.1%~+0.1% V2: -0%~+0.2% B: V1: -0.12%~+0% V2: -0%~+0.23% C: V1: -0.62%~+0% V2: -0.12%~+0.62% D: V1: -0.1%~+0% V2: -0.1%~+0.2% E: V1: -0.1%~+0.05% V2: -0.1%~+0.12% F: V1: -0.24%~+0.51% V2: -0.36%~+0.36%	P
4	OUTPUT VOLTAGE TOLERANCE	I/P:230VAC SPEC: O/P:MIN. TO FULL LOAD A : V1 : ±2% V2 : ±6% B : V1 : ±2% V2 : ±6% C : V1 : ±6% V2 : ±6% D : V1 : ±4% V2 : ±4% E : V1 : ±4% V2 : ±4% F : V1 : -8%~+5% V2 : ±2%	A: V1: -0%~+0.24% V2: -4.79%~+5.67% B: V1: -0.12%~+0.12% V2: -2.43%~+4.0% C: V1: -4.66%~+4.3% V2: -4.39%~+4.8% D: V1: -2.29%~+2.08% V2: -2.19%~+2.23% E: V1: -2.83%~+0.08% V2: -2.6%~+0.37% F: V1: -6.38%~+1.86% V2: +1.69%~+2.45%	P
5	RIPPLE&NOISE	I/P:230VAC SPEC: O/P:FULL LOAD A :V1 :50mV V2 :150mV B :V1 :50mV V2 :200mV C :V1 :50mV V2 :50mV D :V1 :50mV V2 :50mV E :V1 :50mV V2 :50mV F :V1 :50mV V2 :50mV	A: V1: 16mV V2: 25mV B: V1: 7mV V2: 20mV C: V1: 7mV V2: 5mV D: V1: 6mV V2: 6mV E: V1: 6mV V2: 5mV F: V1: 6mV V2: 23mV	P
6	AC INPUT CURRENT	I/P:230VAC SPEC:0.4A O/P:FULL LOAD	F:0.312A	P
7	MAX. INRUSH CURREN	I/P:230VAC SPEC:40A O/P: FULL LOAD	F:33.273A	P
		I/P:230VAC SPEC:250ms		

980930	PD-2503	PASS	H.C.LIOU	Max Lin

PREVIOUS

<table>
<tr><th>NO</th><th>TEST ITEM</th><th>TEST CONDITION / SPECIFICATION</th><th>RESULT</th><th>VERDICT</th></tr>
<tr><td>11</td><td>OVER LOAD PROTECTION</td><td>I/P:230VAC SPEC:ABOVE 105%
O/P:TESTING</td><td>A:246%
B:269%
C:239%
D:286.5%
E:285%
F:230%</td><td>P</td></tr>
<tr><td>12</td><td>OVER VOLTAGE PROTECTION</td><td>I/P:230VAC SPEC: V1:115%~135%
O/P:FULL LOAD V2:115%~135%</td><td>A : V1: 123%
V2: 128%
B : V1: 124%
V2: 123%
C : V1: 124.4%
V2: 126%
D : V1: 121%
V2: 129%
E : V1: 124.3%
V2: 130.7%
F : V1: 124%
V2: 130%</td><td>P</td></tr>
<tr><td>13</td><td>OVER TEMPERATURE PROTECTION & FAN ON/OFF TEST</td><td>I/P:230VAC SPEC:
O/P:FULL LOAD U1 Tj 135°C TYPICALLY
POWER SHUTDOWN</td><td>A: OTP:115°C</td><td>P</td></tr>
<tr><td>14</td><td>GROUND LEAKAGE CURRENT</td><td>I/P:240VAC SPEC:
L-FG--<0.5mA
N-FG--<0.5mA</td><td>A: L-FG:0.25mA
N-FG:0.24mA</td><td>P</td></tr>
<tr><td>15</td><td>INSULATION RESISTANCE</td><td>SPEC: O/P-FG 500VDC/100M Ohms MIN.
I/P-O/P 500VDC/100M Ohms MIN.
I/P-FG 500VDC/100M Ohms MIN.</td><td>A: O/P-FG >100M Ohms
I/P-O/P >100M Ohms
I/P-FG >100M Ohms</td><td>P</td></tr>
<tr><td>16</td><td>DIELECTRIC / WITHSTAND VOLTAGE</td><td>SPEC: I/P- O/P: 3000VAC/ 1 sec (10mA CUT-OFF)
I/P - FG: 1500VAC/ 1 sec (10mA CUT-OFF)
O/P - FG: 500VAC/ 1 sec (10mA CUT-OFF)</td><td>A: I/P-O/P :1.8mA
I/P-FG :2.8mA</td><td>P</td></tr>
<tr><td>17</td><td>BURN-IN TEST</td><td>I/P: 230VAC O/P:FULL LOAD
TA:23.6°C BURN-IN DURATION : 1 hrs</td><td>NON BREAK</td><td>P</td></tr>
<tr><td rowspan="3">18</td><td rowspan="3">ENVIRONMENT TEST
(SAMPLE A:)</td><td>1.LOW TEMPERATURE TEST
I/P:80 VAC O/P:FULL LOAD
AMBIENT TEMPERATURE:-8.7°C</td><td>AFTER 1.33 hrs
POWER ON OK</td><td rowspan="3">P</td></tr>
<tr><td>2.HIGH AMBIENT TEMPERATURE FULL LOAD TEST
I/P:230VAC O/P:FULL LOAD
AMBIENT TEMPERATURE:51.2°C</td><td>AFTER 14 hrs
NON BREAK</td></tr>
<tr><td>3.ACCELERATED LIFE TEST
I/P:267VAC O/P:FULL LOAD
POWER ON :3 min POWER OFF :5 sec
AMBIENT TEMPERATURE:85°C
AMBIENT HUMIDITY:95%</td><td>AFTER 4.5 hrs
NON BREAK</td></tr>
<tr><td>19</td><td>TEMPERATURE RISE TEST
T rise OF PARTS</td><td colspan="2">A: I/P :230VAC AFTER 1 hr BURN-IN
O/P :FULL LOAD TA:23.6°C
<table>
<tr><th>POSITION</th><th>P/N</th><th>TEMP</th><th>T rise</th></tr>
<tr><td>BD1</td><td>BRIDGE DIODE</td><td>49.0°C</td><td>25.4°C</td></tr>
<tr><td>U1</td><td>MAIN TRANSISTOR</td><td>55.2°C</td><td>31.6°C</td></tr>
<tr><td>T1</td><td>MAIN TRANSFORMER</td><td>61.9°C</td><td>38.3°C</td></tr>
<tr><td>D7</td><td>O/P DIODE</td><td>63.8°C</td><td>40.2°C</td></tr>
<tr><td>C14</td><td>O/P FILTER CAPACITOR</td><td>43.4°C</td><td>19.8°C</td></tr>
<tr><td>C5</td><td>I/P FILTER CAPACITOR</td><td>36.1°C</td><td>12.5°C</td></tr>
<tr><td>D5</td><td>CLAMP DIODE</td><td>52.4°C</td><td>28.8°C</td></tr>
</table></td><td>P</td></tr>
<tr><td>20</td><td>LIFE CYCLE</td><td colspan="2">A: SUPPOSE C14 IS THE MOST CRITICAL COMPONENT
I/P:230VAC O/P:FULL LOAD Ta:23.6°C Tc14:43.4°C Life: 424924 hrs
I/P:230VAC O/P:FULL LOAD Ta:51.2°C Tc14:65.4°C Life: 92479 hrs</td><td>P</td></tr>
<tr><td>21</td><td>CRITICAL COMPONENT RECORD (FOR QC INSPECTION REFERENCE ONLY)</td><td colspan="3">A: FUSE : T2.5AL/250VAC UL
BRIDGE DIODE : KBP208G 2A/800V GLASS
LINE FILTER : LF TF-416 ET-20V
TRANSFOMER : MT TF-426 EI-28
POWER SWITCHER : PHIL TOP-223Y
OUTPUT DIODE : C82-004 TO-220
OUTPUT CAPACITOR : 1000uF/25V ,LL 105°C, 5Khrs
INPUT CAPACITOR : HITACHI 82uF/400V,85°C HP3
P.C.B : PD-25-R1,CEM-3 2 OZ SS</td></tr>
<tr><th>DATE</th><th>SAMPLE</th><th>TEST RESULT</th><th>TEST</th><th>APPROVAL</th></tr>
<tr><td>980417</td><td>PD-25</td><td>PASS</td><td>H.C.LIOU</td><td>Max Lin</td></tr>
</table>

8	SET UP TIME	O/P:FULL LOAD	F:132mS	P
9	HOLD UP TIME	I/P:230VAC SPEC:50mS O/P:FULL LOAD	F:129mS	P
10	EFFICIENCY	I/P:230VAC SPEC: A:71% O/P:FULL LOAD B:77% C:73% D:74% E:75% F:72%	A:72.12% B:78.66% C:74.84% D:75.77% E:76.60% F:73.18%	P

NEXT